Whipsnake finds home on the range at Site 300

LLNL's wild side

Article and photos by Jim Woollett

The Alameda whipsnake is a lizard-eating connoisseur found on Site 300's south-facing slopes where rocky outcrops and sagescrub are warmed throughout the day.

The whipsnake is a snake found in only four counties of the United States (portions of Alameda, Contra Costa, Santa Clara and San Joaquin Counties) and it has highly specialized life habits (see below). Because the Alameda whipsnake *(Masticophus lateralis euryxanthus)* lives in one of the fastest-growing regions of California, it was studied by the U.S. Fish and Wildlife Service in the mid-1990s to determine if its population numbers were in decline.

Subsequently listed as a federally-threatened reptile in 1997, the whipsnake now receives national recognition as a special-status species under the Federal Endangered Species Act of 1973. Site 300 Management has been proactive in protecting the Alameda whipsnake onsite so that this unique species does not disappear from a portion of its range forever.

Snake's description

The Alameda whipsnake is a slender and speedy snake with a broad head, large eyes, and contrasting colors. Its cousin, the San Joaquin coachwhip (or "red racer"), is a reddish-colored snake that also has these characteristics and frequents Site 300 grasslands.

One of two subspecies of whipsnake in California, the Alameda whipsnake is distinguished from the more common chaparral whipsnake *(M. l. lateralis)* by a blackened back, a wide yellow-orange stripe that runs down its sides, and some light tan facial markings. The belly can appear a pinkish to red-orange coral color. Adults range in length from 3 to 5 feet. When captured, the whipsnake often lashes its body in spasms, imitating the motion of a bull whip, therein, a possible motive for the name "whipsnake".

Some whipsnakes, with partial or intergrade characteristics of the two subspecies exist, especially in the Corral Hollow Creek region of Site 300. The term intergrade describes an intermediate form of an animal. Intergradation in whipsnake populations is a natural and normal occurrence where Alameda and chaparral whipsnake ranges overlap or are adjacent to one another. The Endangered Species Act protects these intergrade forms of the whipsnake based on their genetic contribution to the species as a whole.

Snake's natural history

Alameda whipsnakes seem to have two peak times of the year for significant, seasonal movements. One is the spring mating season and the other is late summer or early fall (September). These whipsnakes generally find their winter shelter in November and sleep until about March of the following year. Home ranges of adult snakes can vary in size from 5 to 21.5 acres and can overlap with other whipsnake territories.

Whipsnakes have a specialized diet of lizard prey, but have been known to eat rattlesnakes given the opportunity. Both the chaparral and Alameda whipsnake are most often observed in sagescrub plant communities. This is the primary reason why the protected snake's numbers and geographic distribution are limited to very specific parts of the greater Bay Area. This scrub community is found in the inner coast range or Mt. Diablo range and vicinity. These habitats are more desert-like, with dry-sandy soils and patches of scrub supporting large numbers of lizards.

Site 300 has roughly 150 acres of this patchy scrub that the snake can inhabit. Currently (and historically) the Livermore main-site has no known sagescrub.

Current threats to the Alameda whipsnake are habitat loss from urban development and impacts associated with increased human population densities. Fire suppression has also contributed to snakes losing habitat to decadent scrub "forests" across their range. Lastly, species isolation (even within the four adjacent counties previously mentioned) due to massive road/paving construction has led to population fragmentation of the snake.

Snake's recovery

Recovery of the Alameda whipsnake and its removal from the protective regulations of the federal Endangered Species Act will rely upon special resource management factors such as habitat and fire management practices; control of destructive nonnative species; regional cooperation; and research that focuses on management objectives for the species. Little is known about which actions will provide the most benefit to the Alameda whipsnake's recovery, but it would appear that both long-term research and immediate active management decisions, such as the prescribed burns recently implemented at Site 300 are invaluable efforts to finding important resource-related answers.

Take a moment to identify the next snake you see and investigate whether or not it's an Alameda whipsnake. We're fortunate to live and work in the greater Bay Area where some of the rarest animal and plant life in the world can still be found. Now, how about some lunch…

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